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Single Copies, 10 Cents.

BEFORE TRIAL!

Lamar, Mo., July 7, 1886.

SPERRY FEEDER CO.

Gentlemen:—Please send us one Feeder 9 x 18 Allis Roll (double). If satisfactory we will want two more of the same kind and one for 9 x 14 style B.

Respectfully,

Brand, Dunwoody & Co.

SPERRY FEEDER CO.

MINNEAPOLIS, MINN.

Increase Capacity, Increase Yields, Better Grades, Reduce Running Expenses, by using our Feeders.

Refer to the following mills in which our Feeders have been adopted:

Pennsylvania.
Pillbury A,
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Anchor,
Washburn A,
Washburn C,
Northwestern,
Pettit,
Columbia,
Crown Roller,
Dakota,
Galaxy,
R. D. Hubbard & Co.,
Minneapolis, Minn.

PENNSYLVANIA.
H. B. Klinger & Co., Butler.
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Melbourne Mills, Philadelphia.
NEW YORK.
Jewell Milling Co., Brooklyn.
Jones & Co., New York City.
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OHIO.
Schumacher Milling Co., Akron
R. D. Hubbard & Co., Mankato, Minn.; Austin Herr,

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Del Monte,
General Bidwell, Chico.
Grialey Mills, Gridley.
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Washington, D. C., and others.

AFTER TRIAL!

Lamar, Mo., July 29, 1886.

J. A. McANULTY.

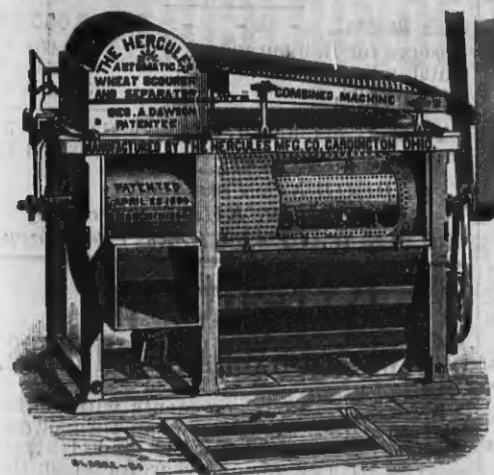
Dear Sir:—Please send us two more Feeders for 9 x 18 Allis double rolls, and one for 9 x 14 style B. We are convinced from our experience with the one sent us that they will increase our capacity and yield materially. Ship as soon as possible and send bill.

Yours Respectfully,

Brand, Dunwoody & Co.

The only Force Feed Made for Feeding Mill Stock

DO YOU WANT CLEAN WHEAT?



THE HERCULES Automatic Wheat Scourer and Separator.

Warranted to improve the COLOR and VALUE of flour in any mill. Anti-Frictional, Light Running and the only AUTOMATIC WHEAT SCOURER ever invented. Adjusts itself while in motion to the volume of wheat fed to it and requires no attention but oiling. Awarded GOLD MEDAL and highest honors at the late WORLD'S FAIR, NEW ORLEANS. Machines sent on 60 days trial and satisfaction guaranteed or no pay. Write for Circulars, Testimonials and Samples of Cleaned Wheat and Scourings.

THE HERCULES MFG. CO., Cardington, Ohio.

IT HAS INCREASED OUR TRADE.

THE HERCULES MANUFACTURING CO., Cardington, Ohio.

Gentlemen:—We like the "Hercules" machine very much indeed. It has increased our trade, and we will buy another for our other mill in the Spring. It certainly is the best Scourer we know of.

[Mention this Paper when you write.]

SCHREURS BROS.,
PROPRIETORS OF YOUNG AMERICA ROLLER MILLS,
Muscatine, Iowa, December 9th, 1885.

Yours Respectfully,

SCHREURS BROS.

CAWKER'S AMERICAN FLOUR MILL DIRECTORY FOR 1886

ISSUED FEBRUARY, 1886.

PRICE, \$10.00.

SENT BY MAIL, REGISTERED AND POST-PAID. EVERY

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FLOUR IMPORTER, MERCHANT MILLER,

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Solicits Orders for Carolina Rice and Peanuts.

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We give special attention to the purchase and sale
of grain or provisions, for future delivery, here or
in other markets.
Information regarding the present condition and
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AMERICAN
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OFFICE, 45 WILLIAM ST., NEW YORK.
Cash Capital, \$500,000

ASSETS JANUARY 1st, 1885.
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Premiums in course of collection 16,599.35

LIABILITIES.
Reinsurance reserve 40,225.00
All other demands 2,013.27
\$ 43,149.24

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Every miller and manufacturer having an A 1 risk, should apply for insurance in the Allied Mutual Fire Insurance Companies, of which S. H. Seamans, Milwaukee, Wis., is secretary.

CONNECTICUT

FIRE INSURANCE CO.,
HARTFORD, - CONNECTICUT.

Cash Capital, - - - - - \$1,000,000 00
Reserve for Reinsurance, - - - - - 580,669 40
Outstanding Claims, - - - - - 90,398 57
Net Surplus, - - - - - 303,663 78

Total Assets, Jan. 1, 1886, - \$1,974,749 75
Surplus to Policy-holders, - \$1,303,663 78

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CHARLES R. BURT, Secretary.
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We have made arrangements with Potter & Huntington, whereby we can furnish one of their EXCHANGE TABLES and UNITED STATES MILLER for one year, for \$1.50; the price of the Exchange Table alone is \$1.00. This is probably the best Table ever prepared for Millers doing an Exchange or Custom Business. The range is from 25 to 36 lbs. of flour to each 60 lbs. of wheat, and corresponding amount of bran and middlings. (Toll and waste in milling deducted.) There are twelve Tables each of a different grade of wheat, and each Table a different amount of flour and feed and can be used for any amount of wheat, from two lbs. up to any No. of bushels. There is no guess work about it, but all from actual experience. By it the Miller is always sure of his allowance of Toll. Hundreds of them are being sent to all parts of the United States and Canada. Send us One Dollar and Fifty Cents and we will send the Table and credit you for one year's subscription to the UNITED STATES MILLER. Address, UNITED STATES MILLER, 124 Grand Avenue, Milwaukee, Wis.



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Improved + Walsh + Double + Turbine



This wheel has a perfect fitting cylinder gate and draft tube combined, and allows no water to escape when closed.

POWER GUARANTEED

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Freight Contracted on through Bills Lading to all points in

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New England & Canada.

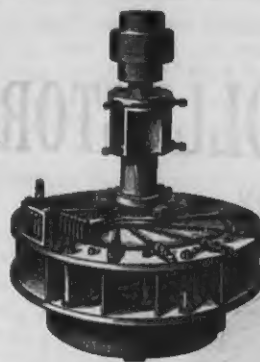
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All freight insured across Lake Michigan. Passengers save \$2.75 to all points East.

Dock and Offices, No. 50 West Water St., one block from Union Depot.

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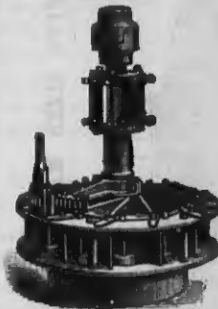
Fine New Pamphlet for 1885.

The "OLD RELIABLE" with Improvements, making it the Most Perfect Turbine now in use, comprising the Largest and the Smallest Wheels, under both the Highest and Lowest Heads in this country. Our new Pocket Wheel Book sent free. Address,

JAMES LEFFEL & CO., Springfield, Ohio,

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POOLE & HUNT'S Leffel Turbine Water Wheel

Made of best material and in best style of workmanship.

Machine Molded Mill Gearing

From 1 to 20 feet diameter, of any desired face or pitch, molded by our own SPECIAL MACHINERY. Shafting, Pulleys, and Hangers, of the latest and most improved designs.

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N. B.—Special attention given to Heavy Gearing for Pulp and Paper Mills.

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40,000 CRANK SHAFTS and 80,000 GEAR WHEELS of this steel now running prove this.

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Marshall Automatic Grain Scale

FOR USE IN

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BREWRIES,

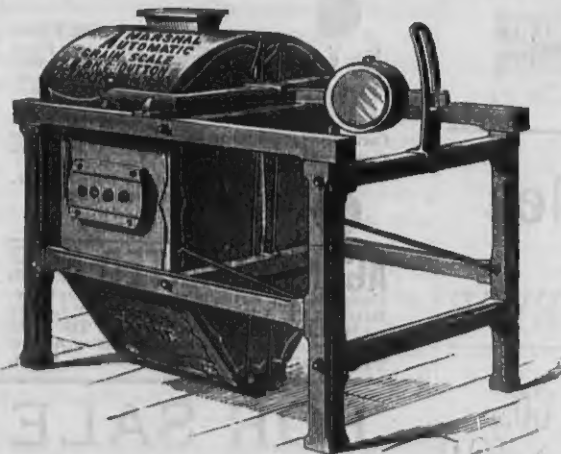
Malt Houses,

ELEVATORS,

Distilleries, * Rice * Mills,

OIL MILLS,

Starch Factories, &c.



This Scale is designed for weighing and registering the amount of grain transferred from one point to another. The weighing and recording is absolutely correct, and the machines are sold with a guarantee to that effect. By their use the miller can tell at any time how much wheat he is using to make a barrel of flour and know at once whether he is milling at a profit or loss. This scale can be used with equal advantage by shippers of grain or others who desire to know how much grain, flour feed, bran, shorts, screenings, coal (or any other thing that can be spouted), is being transferred, with a perfect record made of same.

J. B. & H. C. DUTTON, Detroit, Mich.

Gentlemen: We have used the Marshall Automatic Grain Scale in our mill for six months, and it has proved entirely satisfactory.

Yours truly,

ELDRID MILLING CO.

J. B. DUTTON & CO., DETROIT, MICH.

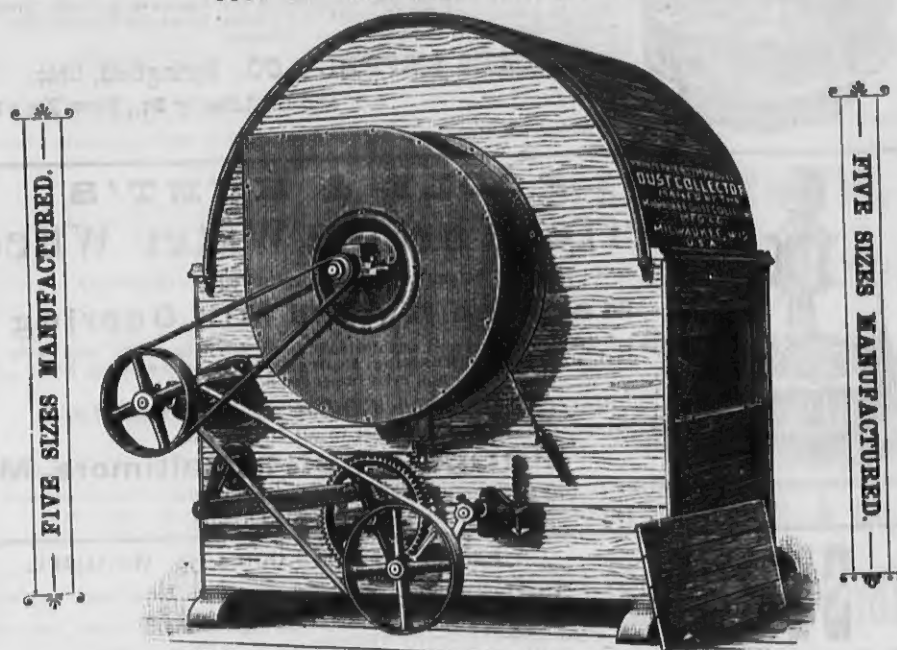
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SOLE OWNERS OF THE PATENT.

Also handle a full line of Flouring Mill Machinery.

PRINZ PATENT DUST COLLECTOR.

6000 IN SUCCESSFUL OPERATION.



FIVE SIZES MANUFACTURED.

FIVE SIZES MANUFACTURED.

ADDRESS FOR

"Treatise on Dust Collection," containing 50 pages of testimonials,

Milwaukee Dust Collector Mfg. Co.,

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Howe Scales

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Borden, Selleck & Co.,

GENERAL AGENTS,

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48-50 LAKE ST., 612 N 3d STREET, 114 WATER ST., 116 MAIN STREET.

Howe Scales—Over 350 Modifications.

GRAIN TESTERS, FLAX TESTERS,
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BARBED WIRE STRETCHERS,
TRUCKS, BAGGAGE BARROWS,
COFFEE AND DRUG MILLS,
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STANDARD, LIQUID AND DRY MEASURES.

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Circular Size, 8.00
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For home or
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BIG PAY! A pocket case of EIGHT Lovely
SAMPLES, with our terms, FREE TO ALL.
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IF YOU WISH TO BUY
CITY PROPERTY IN DULUTH,
OR PINE, IRON OR FARM-
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DULUTH, MINN.

Mills • For • Sale.

Short advertisements will be inserted under this head
for One Dollar each insertion.

FOR SALE.

One-half or the whole of a good water-
power roller mill in Wisconsin. Has eight
set of 9x18 inch rolls and well fixed with
Machinery, capacity 100 barrels; also has four
run of stone in good order used for Middlings,
Rye, Buckwheat and Feed. This is a rare
chance for a man with means. Said mill is
situated in a village of 1,200 inhabitants with
railroad communication, and surrounded by
a good farming country, is only five miles
from a rapidly growing manufacturing city
of 13,000 inhabitants. Terms, three to four
thousand dollars down, balance in annual
payments for a long time, or I will exchange
for good farming or Milwaukee city property.
For further particulars, address
BOX 488, MILWAUKEE, WIS.

FOR SALE.

A Flour Mill in a good wheat section on
D. R. G. B. R., Colorado. Finest of Water
Power. Three runs of Burrs, Centrifugal
and Cleaning Machine, all in best conditions.
Good reasons for selling, and special induce-
ments given to purchasers. For terms, etc.,
address **FRED. FISCHER, La Veta, Col.**

FOR SALE.

Half interest in 2-run Custom Water Power
Flouring Mill. Dwelling house of 9 rooms
and Ferry across Wisconsin river. Situated
eight miles North of Kibourn City, Wis.
Price, \$1600.00. The other interest may be
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Street, Milwaukee.**

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THE ELEGANT

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GRIST AND FLOURING MILL,

— IN THE —

VILLAGE OF DELAFIELD, WAUKESHA CO., WIS.

Water Power, unfailing. All in A 1
condition for business. Also two good Resi-
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bargain for the right man. Address,

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E. HARRISON CAWKER, EDITOR.

PUBLISHED MONTHLY.

OFFICE, NO. 124 GRAND AVENUE, MILWAUKEE.

SUBSCRIPTION PRICE—PER YEAR, IN ADVANCE.

To American subscribers, postage prepaid..... \$1.40
 To Canadian subscribers, postage prepaid..... 1.00
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All Drafts and Post-Office Money Orders must be made payable to E. Harrison Cawker.

Bills for advertising will be sent monthly, unless otherwise agreed upon.

For estimates for advertising, address the UNITED STATES MILLER.

[Entered at the Post Office at Milwaukee, Wis., as mail matter of the second-class.]

MILWAUKEE, DECEMBER, 1886.

We respectfully request our readers when they write to persons or firms advertising in this paper, to mention that their advertisement was seen in the UNITED STATES MILLER. You will thereby oblige not only this paper, but the advertisers.

MILWAUKEE AMUSEMENTS.

ACADEMY OF MUSIC—Performances every evening, Wednesday, Saturday and Sunday matinees.

GRAND OPERA HOUSE—Performances every evening, and Wednesday, Saturday and Sunday matinees.

DIME MUSEUM—Performances every hour from 1 P. M. to 10 P. M. every day.

PALACE THEATRE—Every evening, Wednesday, Saturday and Sunday Matinees.

STADT THEATRE—(German)—Wednesday, Friday and Sunday evenings.

SAN FRANCISCO parties recently exported 2,000 tons of flour to China.

ACCORDING to the *Railroad Gazette* (Dec. 8), 6,111 miles of railroad have been built in the United States so far this year.

THE flour production of Minneapolis for the year ending November 30, 1886, is reported to have been 5,057,000.

REPORTS from British ship-yards show that a greater number of iron sail-ships have been built during this year than during any year heretofore. The number of wooden ships built is however very small.

MR. F. STALLMAIER, formerly editor of *The Roller Mill*, published at Broadheath, England, has located in Vienna, Austria, from which point he will write articles for various milling papers both in Europe and America.

THE *Milling World* among many other questions, asks: "Is your supply of water insured?" Well, how can it be? We know of no water insurance company. That is a grave question that should be seriously looked into. Here is an opportunity for capitalists or Water Mutual Insurance Companies.

The Roller Mill of Buffalo, N. Y. has been purchased by Messrs. E. L. Burdick & Co. We trust that the new management will make the paper far cleaner than it has been in the past. Although beautifully printed its contents were anything but pleasing to all fair minded readers.

MR. JOHN W. WESTON, editor of the *American Engineer*, of Chicago, has been appointed Commissioner General for the United States International Exposition of Rail-

way Appliances and Industries to be held in Paris next year, commencing May 10 and ending October 1. Full particulars can be obtained by addressing Mr. Weston at No. 280 La Salle street, Chicago, Ill.

SOME of the editors of and contributors to the milling papers are getting themselves worked up to a white heat on the subject of the "Speed of Elevators." The fact is, but few millwrights entirely agree on this subject. Some go on the "cut and try" system, while others figure it out according to some rule or other and become firmly convinced that theirs is the only correct method. It is well, perhaps, to keep up the discussion; better still for millwrights to keep on figuring and experimenting, for sooner or later the vexed question will not only be completely solved but published to the world.

MR. ARTHUR, President of the National Brotherhood of Engineers in his opening address before the last meeting in New York is reported as saying: "We have no sympathy with those organizations who think that might is right, and that the rich owe the poor a living. There is no such thing as an inherent antagonism between capital and labor, but there always exists an antagonism between work and idleness. **** I read the four mottoes of your organization, printed on the programme of this convention; they are: "Sobriety and Truth," "Justice and Morality," "Defence, not Defiance," "Reason, not Violence;" and I say that so long as you are guided by these mottoes, so long will your order receive, as it does today, the approval and hospitality of this mighty city."

THE advocates of the "Short System" are abroad in the land and have no end of arguments in its favor, but are they not simply arguments? If the "Short System" is found able for a reasonable length of time to compete in the points of quantity and quality of yield and economy of cost of production with the "Long System," then the sooner it is generally adopted by the millers of the country, the better. On general principles we believe it advisable for mill owners not to go wild over the subject, and put it in, in place of an already costly and well-studied system, but to calmly await the development of the short system to its best stage, and then, if found to be an improvement on what we now have in our best mills, to adopt it. The question should have the careful attention of all, and be studied without bias.

THE Labor party in cultured Boston met with as great a Waterloo as their bitterest opponents could wish for, at the recent municipal election in that city. As time goes on it will be more and more thoroughly demonstrated that three parties cannot exist in this country, especially when the third party is to be constructed on a class basis with a plank in its platform advocating State ownership of land. There are too many owners of homes here to make any such theory acceptable to the masses. We believe, however, that although the agitation of this labor question has been of more or less present damage to both employer and employee that the ultimate results will be beneficial to both. The agitation was bound to come and

it might as well come at one time as another. It has given all a chance to think and we believe it has done much toward making men respect the rights of each other.

UNEASY PATENTEES.

There appears to be some prospects of more patent litigation. One George Van Name, whose name is at present quite unfamiliar to millers, claims to be the inventor of the patent process for making flour, his patent having been granted in 1887. In a case against George Bain and others which went to the Supreme Court the patent was declared void on account of its publication to the world long before in a book printed in Leipzig, Germany. He claims that the book produced in evidence was fraudulent and that no such matter had ever been published. On this ground he proposed to open the case. If the programme is carried out as it is rumored it will be, it is quite probable that the Millers' National Association will be drawn into the battle.

DULUTH vs. CHICAGO.

A party of prominent Chicago grain men recently visited Duluth to look into the cause of her rapidly increasing grain trade and the Duluth method of doing business in that line. A Duluth correspondent says:

"The visitors spent several days here. They were shown through the elevators and examined with great care the process of cleaning grain. They examined the facilities for receiving the grain from the cars and loading it into vessels. There are no secrets seemingly in the grain business here. Apparently the seekers after the vanished trade were greatly interested in what they saw. They said little, but when they went away they left the impression that forthwith several Chicago elevators would be fitted up with cleaning apparatus, and the attempt would be made to recover the lost ground by an imitation of the Duluth plan."

The Duluth people claim that they can transport grain to eastern markets cheaper than Chicago. The correspondent further says:

"Another, and perhaps a stronger, reason why Chicago will never be able to get this wheat trade lies in the perfect organization of the country elevator interests in favor of Duluth and Minneapolis. Outside of this Northwestern country the extent and the omnipotence of this elevator organization is scarcely known. Chicago evidently does not appreciate what she is fighting, for if she did she would recognize that her wheat market can never be restored, and would cease useless efforts in that direction. The country elevators throughout Minnesota and Dakota were built and are owned by associations. Each association has its territory, and its collection of elevators is called its system. Some of these associations have as many as 70 or 100 elevators. How many systems there are can not be stated, but 15 of the associations have their head offices in the Board of Trade building at Minneapolis. These associations own and operate the elevators on the Northern Pacific and the Manitoba roads.

There are the Van Dusen system, the Sawyer System, the North Pacific Elevator Company, the Red River Elevator Company, and so on through the list. From the central office the buying and shipping of grain at all the country elevators in that system is regulated. Each country elevator reports to the central office daily the amount of wheat taken in and all the business done. The methods are perfect.

Now all of these country systems are controlled by the grain men of Minneapolis and Duluth. Through their complete organiza-

tion they hold the wheat of this northwest country and they hold it in the interest of Duluth and Minneapolis. How can Chicago break the grip?

As an earnest of what the intentions of these associations are, it may be mentioned that the grain men controlling several of them have within a very few days formed a company and taken out a charter to build at Duluth the coming season elevators to hold 6,000,000 bushels. A. J. Sawyer, who owns one of the largest of these country systems, is at the head of this new elevator company at Duluth. Does any one imagine that the wheat going into Mr. Sawyer's numerous country elevators will find its way to Chicago? The business of gathering up the wheat of the Northwest is systematized throughout. Since the millers withdrew their country buyers there has been little or no competition. At each railroad station there is an elevator, and that elevator is one of a string belonging to an association of grain dealers. The head office of the association is at Minneapolis or at Duluth, and thither goes the grain in due time.

Now, where will Chicago break into this close connection between the wheat-fields of the Northwest and the elevators at Duluth and Minneapolis? It is hard to see. This gigantic monopoly—for such it appears to be—formed to handle the wheat of this section, is too big for even Chicago to think of breaking it down. The machinery is all in operation and working smoothly. The relations of the railroads and the elevator associations are too close to encourage the suggestion that Chicago can get into the occupied territory."

For a winter outlet by rail, the road now building from Duluth to Sault Ste. Marie will soon be completed and connect with the Canadian Pacific or Michigan road. Finally says the Duluth man:

"There is one more reason why Duluth may be expected to maintain the long lead she has taken over Chicago as a wheat market. She has the best registry system in the country. The State of Minnesota puts its official indorsement on all the business transacted here. The elevators are entirely independent of and separated from the grain business. When the wheat goes into the elevator the owner of it receives his certificate for so much grain and the State steps in and requires that every certificate should be registered. From time to time the registrar goes to the elevator and calls for a statement of wheat in store. The amount must correspond with the amount represented by the certificates registered. The registrar says to the elevator company: "how much wheat have you got in store?" and the elevator company must open up the books and show just the condition of the business. The checks upon fraud are as nearly perfect as can be devised. Not a bushel of wheat can leave the elevator without being reported to the State. A State officer puts the grain into the elevator and lets it out. The Bank of Montreal and leading banks in the Eastern cities of the United States have investigated the system and pronounce it perfect. All they require preliminary to a loan is the telegram from their correspondent here that the registered certificates, or the number of bushels on which the money is to be borrowed, have been attached to the note, and the draft is honored without further inquiry. A certificate from a Duluth elevator is considered as good money as a bank note.

There is no system equal to this except the one upon which it is modeled—that in vogue in London and Liverpool, where the certificates are called "dock warrants." Chicago hasn't got it. If she had there would be fewer of her prominent citizens now living in Canada."

THE most able and faithful exponent of the South that comes to our table is *The New Orleans Picayune*, now in its 51st year. It will stand comparison with any daily published in the North. It is high-toned, honest and

business-like in every respect, and deserves a large circulation among Northern business men.

MR. GILBERT LITTLE of London is engaged in preparing a book entitled "Modern Milling."

Will some one please favor us with the present address of Mr. A. R. Ennis, formerly located in St. Louis.

CUSTOM and Exchange millers will consult their interests by reading the advertisement concerning "EXCHANGE TABLES" on another page.

A PAPER MILL Mutual Insurance Co., has just been organized in Boston, with Edward Atkinson, the well-known writer on Economics, as president.

OUR January number will contain some valuable articles written expressly for us, by some of the ablest writers on milling subjects and withal practical men.

THE damage suit of a California mill against a Liverpool firm for packing inferior flour in the second-hand sacks of the mill has been quietly compromised, the dishonest flour dealers paying a round sum in cash to effect this.

THE *American Millwright*, after a brief existence has closed its career. We are sorry that Editor Lawrie found it advisable to cease publication. He was making a good paper which was becoming better appreciated with each issue.

OPERATIVE millers desiring a thoroughly practical work on milling can do no better than to purchase "Gibson's Gradual Reduction Milling." Price \$3 or with the UNITED STATES MILLER one year, \$3.50.

FOR \$1.80 we will send to any address in the United States or Canada post-paid, the *New York World* (weekly), THE UNITED STATES MILLER (monthly) and the History of the United States, a handsome volume of 320 pages bound in leatherette tree calf and containing 22 engravings.

THE *American Machinist* truly says: "There are two public dangers which should be fought against. They are the disregard of law by the 'vicious elements,' and the perversion of law by a certain class of wealthy men. The former breeds anarchists, and the latter monopolists."

THE *Northwestern Miller* will present to its subscribers this year the handsomest holiday number of a trade journal ever published. At least we believe so. The publishers have been "working like beavers" on it for months, and as they know how to work, we predict a most satisfactory result. We trust that the trade generally will appreciate it.

ONE of the finest catalogues we have seen for a long time has just been issued by the Prospect Machine and Engine Company, of Cleveland, Ohio. It is well illustrated with specially prepared cuts and contains much

of interest to all using steam engines. This catalogue will be sent to any steam user on receipt of four cents postage. Address as above.

By the way, what has become of all the milling experts and milling engineers we used to hear of so often three or four years ago? Certainly there are as many now as ever, but we imagine they have mostly got tired of the burden of carrying the titles either assumed or forced upon them, and are contented to be known as plain mill-wrights or mill-builders.

THE teeth of bakers decay so rapidly and peculiarly that Dr. Heese, of Leipzig, declares himself often able to tell the occupation of patients by the condition of the teeth. He supposes the caries to arise from the action of an acid formed by the fermentation of inhaled flour dust. Are millers also generally afflicted with decayed teeth? It would be interesting to know.

OUR newly elected Congressman Henry Smith, for so many years known to the trade as a member of the mill-wrighting firm of Birge & Smith, has sold his interest in the business to his partner, and for the next two years will devote his entire attention to the interests of his constituents. We regret to see any man leave a good business for a political career, the path of which is always strewn with more thorns than roses; but if Mr. Smith makes as good a Congressman as he did a City Comptroller, his constituents will have no cause to complain.

THE *N. Y. Insurance Chronicle* says: The present local dullness in the fire insurance business is probably due to three causes, each of which has been advanced separately, in explanation of the phenomenal state of affairs: (1) to the small stocks in warehouses, (2) to renewals a long term in advance by certain companies before the compact went into effect, and (3) to patient waiting for the compact to go to pieces by parties who carry short lines of insurance in obedience to the daily repeated assertions of brokers that the old times will return "next week."

WE have received from the publisher, Mr. John Heywood, London, Eng., a new work entitled "The Construction and Equipment of Grain Magazines" (Elevators), written by G. Luther in German, and translated into English by Messrs. F. Stallmaier and Joseph Fux. It is illustrated by 12 photographs, 14 lithograph plates and 116 wood cuts. It is without doubt the most valuable work on the subject ever put in print, and is of vital interest to all builders or owners of grain elevators. We have no hesitation in recommending this work to our readers. If desired we can supply the book post-paid, for \$2 per copy.

THE mining craze has struck Milwaukee investors and the way mining companies are being organized and stocks bulled and beared here would make one think he was in California or Nevada. The only difference is that the western mines are of gold or silver, while ours are iron or copper, especially iron. A number of our best business men have been extremely fortunate and have made "a barrel of money." Of course, it goes without saying that others have dropped their

"boodle" in the most approved style and are watching keenly for an opportunity to "catch on" to something by which to retrieve their losses. Taking it all in all, it is perhaps better for men to gamble in mining stocks than in wheat. That is our opinion anyway.

The forthcoming Holiday Number of *The Northwestern Miller* will be profusely and elaborately illustrated. It will contain a hundred pages of miscellaneous and scientific matter, including Stories, Sketches, Essays and Reviews—prepared especially for this number. The covers are being engraved by the American Bank Note Co. Among the more prominent contributors to this annual, will be Julian Hawthorne, Joel Benton, James Lane Allen, Chas. Barnard, Richard M. Johnston and Louis H. Gibson. The humorous features will be provided by Eugene Field, Bill Nye, Robert J. Burdette, James Whitcomb Riley.

This will be the fourth holiday number of *The Northwestern Miller*, and its publisher expects it to achieve even greater success than the last.

FLOUR MILL DIRECTORY FOR 1886-87.

All persons desiring to reach the milling trade should invest at once in a copy of Cawker's American Four Mill Directory for 1886-7, issued Feb. 1, 1886. It is carefully compiled; contains 18,289 addresses in the United States and Canada; Shows in thousands of instances the capacity, power and system of milling (i. e. whether the stone or roller or combined system is used). It also contains a list of millwrights and American and European flour brokers. The book is sold at \$10 per copy and can be obtained by addressing the United States Miller, Milwaukee, Wis.

GLASS ELEVATOR BUCKETS.

Glass elevator buckets are now made by H. Ebstein Soehne at the Czarnowanz Glass Works near Murrow in Upper Silesia. They are made in all the shapes and sizes that they have heretofore appeared in, in leather, tin, wood etc. Those made with a roundish bottom are most praised on account of their perfection in filling and discharging, there being no danger of clogging. The following advantages of glass buckets over others are claimed: Hardness, durability, smoothness, cleanliness and cheapness. The buckets work equally well on hard and soft materials and can be used anywhere that any other bucket can be. They are attached to the belts either by screws or lacing leather.

LOOK OUT FOR FIRES.

The winter is now upon us and it is generally supposed that the danger from fires is greater during this than any other season of the year. Be this as it may, it behooves the miller to use the utmost care to prevent his mill from getting afire. Owing to the peculiar conditions of the modern flour mill it is next to impossible to extinguish a fire after it gets a fair start, and therefore all known means for extinguishing an incipient blaze should be at hand on every floor. These guards against fire should be regularly inspected so that they will be in order if required. An empty water barrel and leaky pails are of no use as fire

extinguishers. Hand grenades it seems can no more be depended upon. To our mind the automatic sprinkling apparatus is the best means for checking or extinguishing fires, but that also has its drawbacks. Every miller should use the utmost care and diligence to prevent fires, and cover all contingencies with a good insurance policy, and no insurance company should issue a policy on any mill that they have the slightest reason to believe will be burned through either the negligence, carelessness or cupidity of the owner.

HON. DONALD MACLEAY, President of the Portland (Ore.) Board of Trade in his address at the twelfth annual meeting, said:

"Portland is the natural point from which American enterprise must compete with British capital, already reaching out for the traffic of the world from the shores of British Columbia. Thoughtful men argue that our situation is such, that cheap transportation, the greatest factor in building up trade, must be forever in our favor. We are within 150 miles of the coal fields; iron is at our doors; limestone is within easy reach; and on every hand we are surrounded by countless acres of golden grain. We are the centre of the railroad system of the Northwest; we lie at the meeting point of two great valleys, down which the iron roads seek our city on a water grade. Removal of the obstructions in the Columbia river will afford us a thousand miles of inland navigation through the most fertile sections of the United States and the British possessions; and there is no other commercial center on the Pacific coast which can be reached without climbing formidable mountain barriers. In the unhappy event of war, we are secure against attack. The entrance to the Columbia river could be easily defended against a naval force; and on all sides nature has afforded fine strategic points, from which to direct defensive operations."

DELAYS IN CANADIAN FREIGHT TRAFFIC.

"Great complaints," says the Montreal *Trade Bulletin*, "are made regarding the delays experienced by our merchants in the transit of flour over the Canadian Pacific Railway from stations in Manitoba. For instance, flour was received in this city last week from a station not far from Winnipeg, which had been on the road 45 days from the date of its shipment, and several other carloads had been on the way the same length of time, whilst the parties to whom they were shipped could get no trace of the flour from the Company. Owing to the great length of time consumed in bringing to market no inconsiderable portion of Manitoba flour and wheat, the trade in these staples has undoubtedly been very much curtailed. This sad want of despatch in its freight traffic, therefore, works even more harm to the Canadian Pacific than to our merchants, as the latter have always plenty of Grand Trunk stuff to fill their orders with."

MINERAL WOOL.

The use of this peculiar product is rapidly increasing. The peculiar reason why Mineral Wool is so excellent a non-conductor of heat is because it contains a great quantity of air. Air is so subtle and rapid in movement when unconfined, and so slow to convey heat, except by its own motion, that it is at once the very best distributor of heat, and also the greatest barrier to its transmission, according as it has, or has not, freedom to circulate. It is not a matter of surprise that this apparently anomalous state of things is misleading and

constantly giving rise to popular errors. That the dimensions of what is called an air-space are entirely arbitrary, no one will deny. It may have a volume of one cubic foot, or it may be the smallest unit of volume into which air is divisible. We are disposed to classify the first case under *climatology*, and the second under *insulation*, for so long as air may circulate at all, it is conveying heat from one place to another; while, if it is held in position by any medium, the heat must be conducted—not conveyed. Now, if the air-confining material is not very loose and porous, it will be found to transmit heat, and furthermore, the reduction of the per centage of volume of air by making the material more compact, develops its capacity for conducting heat. Therefore, so far as theory goes, the poorest conductor of heat is the material which contains the largest percentage of volume of air, and any other view of it is at variance with science and nature.

We find that 192 pounds, or one cubic foot of slag makes 192 pounds, or eleven cubic feet of ordinary Mineral Wool, so that the resulting fibres encase eleven times the quantity of air that the slag did; in other words, the cubic foot before conversion contained 100 per cent. of material, and after conversion only 9 per cent., therefore the product must contain 91 per cent. of its volume of air. In the same way the extra grade is found to have 95 per cent. of its volume of air in it, and consequently, it is a better non-conductor than the ordinary. It is certain that this proportion of air is not encased by any other product, natural or artificial, which is, at the same time indestructible.

The transmission of sound is prevented by a filling of Mineral Wool, because of its inelasticity or want of solidity. This is a very important feature, because no other material in general use for heat-proofing and fire-proofing possesses also the property of sound proofing. A fourth advantage, which is of equal value with the others, is the irritation which the glass fibres cause both to insects and vermin. There is nothing in its composition which can help to breed or harbor insects, and no animal life will remain in it.

Mineral Wool is manufactured by the Western Mineral Wool Co., of Cleveland, Ohio. Mr. E. O. Hoffman, No. 392 Broadway, Milwaukee, Wis., is the Western agent, and has recently filled some very heavy orders.

We will send the United States Miller, The American Miller, and The Northwestern Miller, (weekly), and The Milling World, (weekly), for one year, to any address in the United States or Canada for \$4.00, or to any Foreign Country for £1. 3s.

A TWO CENT STAMP.

Sent with your full address to A. V. H. Carpenter, General Passenger Agent, Milwaukee, Wis., will bring you one of the following named publications, issued for free distribution by the Chicago, Milwaukee & St. Paul Railway:

Gems of the Northwest.
A Tale of Ten Cities.
Uncle Sam's Journey.
Guide to Summer Homes.
The Overland Journey.
The Northwest and Far West.
Plain Facts about Dakota.

All of these publications are finely illustrated and contain valuable information which can be obtained in no other way.

THE VAN DEPOELE ELECTRIC RAILWAY AT APPLETON, WIS.

The Van Depoele electric railway at Appleton, Wis., has a number of interesting features. Two turbines coupled together, capable of developing 100 horse-power, are used to run a 60 horse-power dynamo. The electric current so generated is conveyed by means of two heavy copper wires up to the overhead wires for a distance of about one mile. Here the feeders are electrically connected to the double overhead wires, these being placed over the center of the track, about 18 or 20 feet from the ground, and forming an exact counterpart of the track below. These overhead conductors are so suspended that it is possible for a traveling contact to pass over the wires uninterruptedly from end to end of the track. This traveler, running upon the overhead conductors, brings the current to the motors in the cars by means of a double flexible cable, the latter being so arranged that it can readily be transferred from one car to another. In order to effect this, the cables hanging from the travelers on the overhead wire are fastened with their lower terminals to a cross-bar made of some good insulating substance. To the center of this cross-bar is attached a handle, and if the handle be grasped the terminals of the cables can be hooked into two corresponding sockets, fastened to the underside of the roof on the front end of the car. From these sockets the current is led by means of insulated copper conductors to the motor and to a switch, and, in the usual way, by turning the handle either to the right or to the left more or less current can be sent through the motor, or be altogether shut off when the car is to be stopped. In the present case the motors are placed on the front platform of the car, so that the driver can sit near the motor and have at once full view of the road upon which he is running. As the motor is placed upon the front platform of the car, it is at all times under the eyes of the driver. This enables him to take good care of the machine and see that all working parts are in good order and kept clean. From this point he can also attend to oiling of the shafts, etc., so that there is no reason to neglect any important work.

The motor itself is a very plain but very substantial machine, of the type illustrated in Fig. 3. The commutator brush holder is

provided with two pairs of brushes, and is so arranged that by turning the handle either to the right or to the left, the motor can be made to run back or forward. On starting a car the driver turns on the current gradually until the maximum speed of the car is obtained, a speed which, for street cars, is ordinarily from six to eight miles per hour.

In the present plant five motors, one of

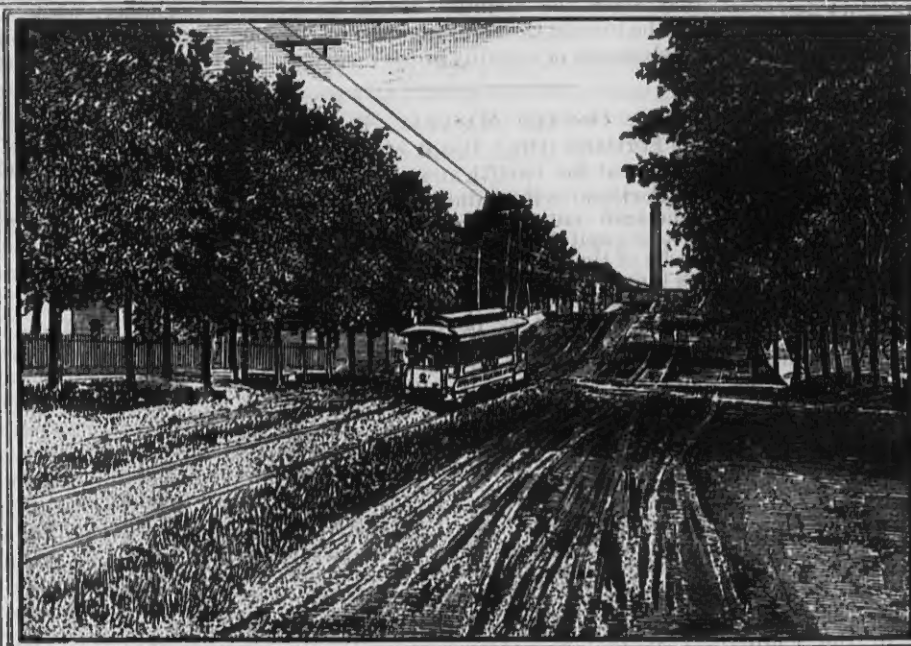


FIG. 2.

twelve horse-power and four of ten horse-power, are connected as follows: From the armature shaft of the motor a phosphor-bronze pinion meshes perfectly in a large gear wheel carried underneath the motor by a solid steel countershaft. Mounted upon the latter are two sprocket wheels, corresponding to two other sprocket wheels fixed solidly to the forward axle of the car; upon

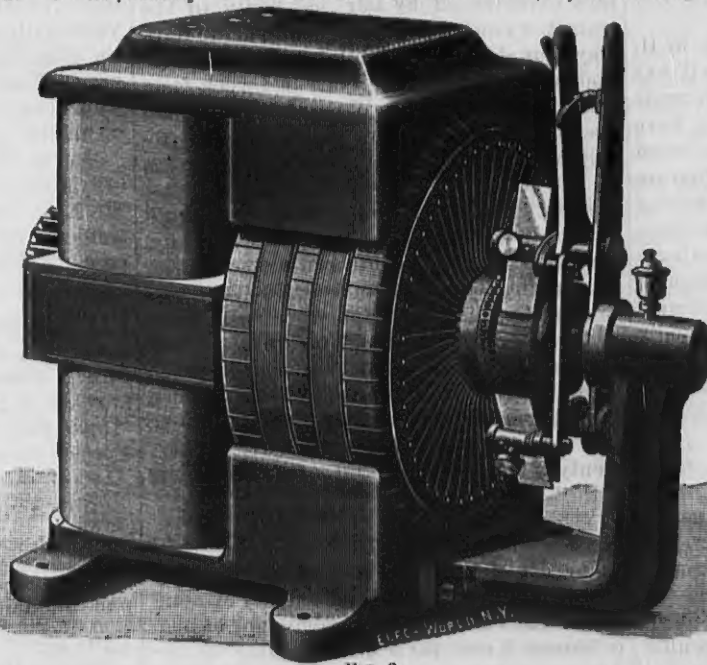


FIG. 3.

these sprocket wheels runs a specially made steel belt, so that on starting the motor the armature shaft revolves its pinion upon the large gear placed upon the counter-shaft, and the latter communicates motion to the axles of the car by means of the intervening

sprocket wheels and steel belts. The grade varies from six to nine per cent, and in one place a sixty-foot curve occurs on an eight per cent. grade; there are numerous curves forty to fifty feet radius. The views are taken from photographs.

HOW A STEAM INJECTOR WORKS.

The fact that steam from a boiler will not only reënter that boiler after passing through several pipes, contracted passages and valves, but will carry a considerable body of water with it, will always be an apparent paradox, and it is not surprising that locomotive engineers should be a little uncertain as to the exact explanation. The action of an injector may, however, be easily explained. High-pressure steam moves with an immense velocity, steam of 140 pounds pressure above the atmosphere being capable of flowing into the atmosphere at the rate of 1917 feet per second, or 1302 miles per hour, which is sufficient to impart a moderate velocity to a body heavier than itself. In an injector, that body is the

feed-water. Unless, however, the feed can condense the steam, the injector will not work. The reason is apparently purely mechanical, as the steam, being bulky and highly elastic, can have no appreciable effect in driving the particles of water in any given direction. When, however, the steam is condensed into an unelastic jet of water still moving at a great velocity, it forces the feed-water before it into the boiler.

This is easily illustrated by supposing that an attempt was made to propel a ship by a jet of compressed air from the stern. The air would simply rise in a mass of foam to the surface, and the energy in the air would be wasted in spray instead of propelling the ship. A jet of water, however, directed astern would have no tendency to rise, as there would be no difference of specific gravity; and it would therefore propel the ship by reacting against the mass of water. It is somewhat singular that there has been so little theoretical discussion of the injector, accompanied by formula giving the quantities of water of a given temperature which should be delivered per hour by an injector of a given size, working

with a given pressure of steam. Some empirical formulas exist, based on the result of experiment, but such as are based on pure reasoning from the recognized physics seem to be very little known.—*Railway Gazette*.
—Subscribe for the *United States Miller*.

SHORT SYSTEM MILLING.

BY J. M. CASE, COLUMBUS, O.

A great deal is being said and written recently upon short systems of wheat milling. Men write upon it as though it was some new thing, some great discovery that has just been brought out. It is amazing to observe the lack of information that exists in relation to what has been done in the past in the short systems of wheat milling. It must be known to many that mills have been running in this country for four or five years on two three and four reduction systems. Mr. Huber, from Hungary, has built a large number of mills in this country in which he has used only three breaks; our company has built some mills in which we have used but three breaks. We have customers who have operated a two-break mill, and all this for the last three or four years. The writer in his

12 inches long, the results will be somewhat injured. If instead of 12 inch rolls being used, 18 inch rolls are put in their place, and the mill is made with only four reductions, the results will be fully equal to that of the six reduction mill using the 12 inch rolls. It will be remembered that the object of gradual reduction is to produce middlings, and it is a fact well known to expert millers that the lighter the feed upon the roll the more middlings will be produced; consequently, in using a roll 12 inches in length, if overloaded, it will defeat the object aimed at, that of producing a large quantity of middlings. This is owing to the fact that one particle of wheat piles up upon another particle and the two particles are crushed together in such a manner as to soften the chop and not produce middlings, whereas if the 12 inch roll was lengthened out to an 18 inch roll the thickness of the sheet of grain passing between the rolls will be proportionately

however, to make a short system of milling, turning out 20 to 25 barrels of flour per day of twenty-four hours on three double sets of 6x18 rolls, and make a good fair finish. It is also possible to reduce the number of bolts very materially below that which has hitherto been used and thought to be indispensable. There are certain grades of stock which may be ground and bolted together which ordinarily are kept separate in the more elaborate systems of milling and still a good straight grade of flour is produced. Our company are now building a mill in which we only use three double sets of 6x18 rolls, three bolting reels of peculiar construction and one wheat cleaner. This constitutes the entire mill, and we have every reason to believe that, so far as the head of the mill is concerned, this mill will produce about as good flour as is produced in the more elaborate system of milling. It must be remembered that all there is in milling, after all, is simply



FIG. 1.—THE VAN DEPUELE ELECTRIC RAILWAY AT APPLETON, WIS. SEE PAGE 24.

"Twenty statements," which appeared some eighteen months or two years ago, stated that "in matters of reduction it was more important to have the requisite length of the roll than it was to have a great number of reductions." That is, it is better to have four reductions with a roll 24 inches long than it is to have eight reductions with a roll 12 inches long. This is due to the fact that in the less number of reductions there is less abrasion, wearing or rubbing of the bran, and consequently less fibrous matter is disintegrated and mixed with the better stock. This fact has been known to the writer ever since we first commenced the building of flouring mills.

It is, however, the generally adopted system among the millers to use six breaks in the reductions, and this standard has been reached through a series of experiments, in which the miller expected to get a given capacity out of a given length of roll. For instance, a 6x12 roll is expected to develop a breaking capacity of 50 barrels in twenty-four hours, and do the work well. If the reductions are reduced below six, using a roll

reduced, so that one particle of bran does not lap over upon another particle, and in that condition a large quantity of middlings will be made. Herein lies the secret of short reductions. It is in the length of the roll. It is possible to produce an excellent good result from a three-break mill, but in doing so the length of the roll must be made proportionately to the work there is to be performed, otherwise the miller will find it a failure.

"But it must be remembered that the mere reduction of wheat to middlings preparatory to further reduction is not all of a system of milling. In fact, it is the lesser part of the present elaborate system of gradual reduction, and while it is true that the breaks may be considerably reduced, yet it is equally true, that in order to make a close yield and a good granular flour, the tail end of the mill can not be reduced beyond a certain limit. If a short system is used on the middlings and the low grade, it must be at the expense of a quantity of material that passes through the mill, or the capacity of the mill must be greatly reduced. It is possible,

to produce a good granular stock of middlings, purify them well, grind them and sift through a bolt. Pure middlings made on the short system and bolted will make just as good flour as pure middlings made on a long system, and there is no question of doubt that there are elements in the short system which are worthy of careful consideration to those who are not prepared to put in the more elaborate systems of milling, yet they must not expect to produce a result in all respects fully equal to the mills in which they have a large number of redressing bolts for handling the difficult material that comes from the tail of the mill. No short system of milling can ever be developed that will accomplish results at the extreme tail of the mill as perfect as they are done on the more complete systems. The product which would pass to low grade flour in the short system of milling would, in the more elaborate system, be rebolted, and the tailings over the bolt would be again reground and again bolted, and by this continued manipulation result would be obtained at the tail of the mill better than can be accomplished by the short

systems of milling. Yet at the head of the mill there is no reason why there should not be made, on a very short system, a grade of flour equal to that made on the longer and more expensive systems of milling. I may add, however, that it is the belief of the writer, and this belief is based upon no theoretical reasons, but actual experiment, that no two break mill can be successful. Three breaks are absolutely necessary, otherwise there will be both a richness of feed and a large quantity of low grade owing to the fact that in the second break the bran has got to be "chewed to pieces," comparatively speaking, otherwise it cannot be properly cleaned, but in the three-break mill, results can be accomplished which will prove satisfactory to most of the small mills in the country."

A DECISION RELATING TO "BOYCOTTS."

The most recent decision on the subject of boycotts was recently rendered by Chief Justice Bingham in a case on trial at Plymouth, Mass. The defendants were prominent Knights of Labor, and their side was represented by Gen. Butler and others. We take the following extract from the Chief Justice's decision:

"Every employer has a right to employ whom he chooses, and every manufacturer has the right to buy and sell from and to whom he pleases, and to use in any lawful way any material which he may choose to buy. But the right of labor to choose its own employer is no more sacred than that of the employer to buy what and of whom he chooses. It is also a principle that labor has the right to combine for the amelioration of its condition. Of course such a combination will reduce the profits of the employers. Employers may also combine to regulate labor, and the value of labor may be reduced as a result, or labor may be exposed to more rigorous conditions. Both combinations act adversely and injuriously, but within their rights. These being the rights of the parties, any man who undertakes to prevent the manufacturer from buying what or from whom he pleases interferes with a legal right. So if a combination of persons be made to interfere with that right, it is an unlawful combination. If the means used for interference are unlawful, there is a combination in every sense of the law. As to what means are unlawful, a combination to prevent one man from using anything made by another is a combination to an unlawful end, and if effected by threats or intimidation, there may be a conspiracy."

We will send you a copy of "Leffel's Construction of Mill-dams, and Bookwalter's Millwright and Mechanic," and "The U. S. Miller" for one year for \$1.30. Don't miss it.

PUBLICATIONS RECEIVED.

Scribner's Magazine.—The first number of *Scribner's Magazine*, published monthly, with illustrations, was issued on the 15th of December. All succeeding numbers will be published on the first of the month, of which they bear date. *Scribner's Magazine* will be in the widest sense a magazine of general literature; and its main purpose will be to bring together not only good reading, but literature of lasting value. Each number will be fully illustrated, and in a manner which shall be in the best sense illustrative of the text. The subscription price is \$3.00 per year. Messrs. Charles Scribner's Sons, publishers, 743 and 745 Broadway, N. Y.

THE BROOKLYN (N. Y.) MAGAZINE, to be known after Jan. 1, 1897, as *The American Magazine*, has come to hand in the shape of a fine Christmas number. It is published by the Brooklyn Magazine Co., 7 Murray St., New York, and the subscription price is \$2.00 per year. Among other important features are the regular publication of the sermons of Rev. Henry Ward Beecher and Rev. T. DeWitt Talmage, D. D.

THE CHRISTMAS ART AMATEUR.—The colored study in *The Art Amateur* for December is a marvelous fac-simile of an exquisite figure in water colors, "In Dreamland," by Madeleine Lemaire, the famous Parisian flower painter. It represents a beautiful girl who has fallen asleep in a quaint old arm-chair; the big old-fashioned book in her lap is evidently responsible for her slumbers. A pleasant notice of Mme. Lemaire is accompanied by several fine illustrations of her skill in flower and figure drawing. There is a holiday profusion of decorative designs. The articles on flower painting are concluded, and a new series on fruit painting is begun. An excellent description of "wet" water color painting is given by H. W. Ranger, an expert in that form of art; there are valuable hints for the simple decoration of unadorned apartments, on American silverware, and on church vestments, and the usual "Note Book," and well-filled minor departments. If any reader does not yet know *The Art Amateur*, this Christmas Number is a capital one to begin its acquaintance with. Price, 35 cents; \$4.00 a year. Montague Marks, Publisher, 23 Union Square, New York.

THE COSMOPOLITAN, published by Schlicht & Field Co., at Rochester, N. Y. Subscription price, \$2.50 per year. This handsome magazine contains 64 pages, and is full of short stories, travels, adventures, and a great abundance of other interesting and instructive matter. A handsome premium is offered with the magazine, the well-known Shannon Letter and Bill File.

THE AMERICAN PROTECTIONISTS' MANUAL is the title of a work by Giles B. Stebbins, of Detroit, Mich. Its title indicates its object, and its contents fully justify the title.

For many years the December issues of *Harper's Magazine* have been distinguished by an unusual wealth of choice reading and pictures, with a special emphasis upon Christmas subjects. Rich as have been the previous numbers, the one just out stands easily at the head of all that for nearly forty years have entertained and enlightened innumerable readers. Everything is complete in itself, the serials being omitted from this number. Beside the strongest attraction of "The Boyhood of Christ," by the author of "Ben-Hur," the Howells farce, "The Mouse-Trap," Gibson's delightful "Wood Notes," and the bounteous departments of confidential discourse, of literary judgment, and of overflowing humor, presided over by the geniuses of G. W. Curtis, W. D. Howells, and C. D. Warner, we are regaled with six short stories (four of them beautifully illustrated), and five illustrated poems. Of the abundant cuts, twenty-five occupy full pages, and four are printed separately on plate paper. Notwithstanding the unparalleled richness of this number, we are assured by the publishers that it is only a Christmas form of the exalted standard which will be uniformly maintained throughout the year; and the magnificent prospectus detailing the coming treasures gives a splendid promise to the volume begun by this number.

OGILVIE'S POPULAR READING No. 35 received—price 30 cents—containing the following eleven stories, all complete: *Fighting Her Way*, by Rose Ashleigh. *Flitters Tatters* and *The Counsellor*, by the author of "Hogan, M. P." *Love in Idleness*, by the author of "Loveday." *Rosie*, by a popular author. *Atholl*, by Mary Cecil Hay. *In the Holidays*, by Mary Cecil Hay. *The Name Out on the Gate*, by Mary Cecil Hay. *She Would be a Lady*, by the author of "Bridged by His Love." *A Great Feast*, Mrs. Henry Wood. *Josh Billings' Spice Box*, by Josh Billings. Sent by mail, post paid, on receipt of price, by J. S. Ogilvie & Co., Publishers, 31 Rose St., New York.

RAND, McNALLY & Co.'s POCKET ATLAS OF THE WORLD is the title of a work of suitable size for the pocket which contains 200 pages of maps of every part of the world and the United States in particular accompanied by brief descriptions and reliable statistics. This little work so pregnant with information can be supplied for the nominal sum of 50 cts.

NEWS.

ASSIGNED—D. C. Conley, miller at Dundee, Wis.

A BOARD OF TRADE is being organized in Fargo, D. T.

H. SMITH & Co., Grafton, Wis., have made an assignment.

BURNED—Otto Busch's grain warehouse at Two Rivers, Wis.

BURNED—Stevens Bros.' mill and elevator at Cumberland, Iowa.

BURNED—November 5, the Otis grain elevator at Cleveland, Ohio. Loss \$35,000.

SEVEN Minneapolis mills are now using steam power when the water power is not sufficient.

BIRMINGHAM, Ala., is rejoicing over the investment of \$3,000,000 by New York capitalists in her mines and iron works.

At Stevens' Point, Pa., Nov. 10, James Connelly's saw-mill, grist-mill and chair factory was destroyed by fire. Loss \$15,000; partially insured.

It is rumored that a wealthy Minneapolis miller is contemplating the erection of a mammoth mill at Niagara Falls, the future great milling center.

MR. M. D. BEARDSLEE the Minneapolis representative of the Milwaukee Dust Collector Company, has recently received patents for a grain grader which we believe to be valuable.

THE firm of Youngblood & Hall, wholesale flour and feed dealers, at Atlanta, Ga., has been dissolved and A. P. Youngblood, No. 81 Alabama street, Atlanta, Ga., continues the business.

THE Prospect Machine and Engine Co., Cleveland, O., have among their late orders an engine of 265 horse-power for the Brown Hoisting and Conveying Co., one of the same size for A. G. Cook, Laconia, N. H.

S. KAMMERER of Fountain City, Wis., an old and experienced miller, is dead. He met with a bad accident about a year ago and since then he lost his mill and dwelling by fire, both of which were uninsured.

Two new grain elevators having a capacity of storing 820,000 bushels, with all necessary machinery for cleaning and grading have recently commenced operation in Buffalo, N. Y. They are accessible by all railways entering Buffalo.

FARMER Roller Mill Co., at Grand Rapids, Mich., has given a chattel mortgage on the stock to Roger Butterfield, trustee for home creditors. The liabilities are \$21,000; nominal assets, \$50,000; actual assets, probably \$30,000. The concern commenced business in Jan. 1884.

GRATIOT WASHBURN, son of Hon. E. B. Washburne, died of apoplexy in Louisville, Ky., Dec. 17. Mr. Washburne was born May 4, 1840, at Galena, Ill., and received his education at Bloomington, graduating at the Normal school. For eight years he was assistant secretary of the American legation in Paris and was among those who remained there when Prussian ordinance thundered at its gates. He returned to the United States and made New York his place of residence, having been accorded a position in the customs house. He had been elected secretary of the American exhibition in '87, and gave his energies and time to the success of the exposition. He was an indefatigable worker, a deep thinker and scholar and a thorough gentleman. He was unmarried.

SUIT has been brought by the United States government against the owners of the water power at Neenah and Menasha to perpetually restrain them from draining off water from Lake Winnebago and the Lower Fox river, for hydraulic purposes, when the level is at or below the foot of the dam at Menasha which is the governing point for water levels. Complaint has been made by vessel men that the low stage of the water impeded navigation last season, and that in addition to the drought they had to contend with millmen, who drew off sufficient water to make the situation worse than it would have been otherwise. The action is partly because of the intention of Menasha men to dig a new canal on which to erect large mills, and which will call for the use of more water even than last year. The action of the government will only have a serious effect on millmen during severe seasons of drought, when it may cause them to close down.

BEWARE OF RUNNING MACHINERY.

Referring to the death of Thomas G. Ferguson recently, by accident in a mill, *The American Millwright* says: "From the circumstances connected with the accident, none there be to blame him with carelessness. For years he had been employed around machinery, and like many others of the craft, thought his experience would insure his safety. This accident ought to induce additional caution and carefulness on the part of those having business around moving machinery, and to further the exercise of caution we herewith give a few instructions on the subject. Wear close fitting clothes. Have a blouse or jacket to button tight around the waist or body; have the sleeves to fit the arms closely as far up as the elbow. Never wear a coat around machinery. Never approach a pair of gears or a pulley from the driving side. Never attempt to save time by putting or trying to put on any fast-running belts without slacking up or stopping entirely to do it. It is cheaper to stop to put on a belt than to attend a funeral, perhaps your own. Never allow an inexperienced person to go through the mill without an attendant. Never allow a woman to go through a mill—no matter how many attendants—while in motion. Never attempt to go through a mill in the dark. You may forget the exact location of some dangerous object and seek to avoid it, but it is still there, noiselessly waiting a chance to wreck you. Never allow any dangerous place to be left unguarded. Keep your eyes open while oiling. Never relax your vigilance for an instant; it may cost you your life. Cold cast iron has a total disregard for human flesh and the safest way is to acknowledge its power and avoid a test of strength. Many people need no telling to 'grab a post' or any thing you can hang on to, but if you feel a gentle tug at your clothes, grab, and grab quick and don't let go till the cloth does. We always thought that we were as careful as a man could be, nevertheless, we have been 'caught' more than once, and only an instantaneous effort saved us from injury and possible death. We have been an unwilling witness to many a mill and factory accident and have seen some victims escape with the loss of their clothes, while others have been torn and mangled by the merciless machinery. One cannot be too careful. Too much cannot be done to lessen the dangers of machinery. Experience seems to give no absolute safety. Nothing can. Your own carefulness will be your greatest protection."

NONSENSE.

A BEAR STORY.—The boys are nearly all down from the mountains now, securely housed for the winter. One of them says: "Over onto Yankee Fork last season I struck some rich float. It was good, you bet. Being rather late in the evening, and knowing there was no one around, thought I'd take it in next morning. Well, I started out early, before sun-up, and I was so excited that I left my gun in the blankets. Well, as I was traveling along the trail, just where the canyon narrows so that two men could hardly pass each other, what in thunder should I see but a big brown bear coming down the trail. Now I had nothing on me to show fight with, and the bear didn't seem inclined to runaway, and

I was in a bad fix. Well, boys, do you know what I did? I just fell down on all-fours and commenced to prance. The bear pranced, we both pranced up to each other; he sidled up to me, and I sidled up to him; he kissed my ear and I kissed his; and we both went along about our business as though nothing had happened.

THIS IS REFORM.

The Wisconsin Central Line has resolved upon a reform which should be imitated by all the roads in the country.

It has decided to increase the pay of the porters and waiters employed on its sleeping and dining cars to an amount which will give them ample compensation for their work, and prohibits them from receiving "tips" from passengers. Orders are issued to them to receive no money from any passenger, except for blacking shoes, "when requested" to do so. For that service they are permitted to accept ten cents.

The passengers on the Wisconsin Central after this will not be annoyed by the un-American system of gratuities to employees of the road. The road will pay its employees and not trust to the charities of the traveling public to maintain them.

This is a real reform. It is a greater boon to the employees even than to the public. It relieves them from a degraded position. The man who depends upon "tips" for a livelihood necessarily loses self-respect. The system is one which is inconsistent with the status of a free American citizen. It is a disgrace to the great railway corporations that they have so long fostered this degrading practice. They are amply able to pay fair wages to all their employees, but they have left one class of them dependent upon the charity of others. The wages paid to sleeping car porters have been hardly sufficient to pay their board, and they have been forced to rely upon the gratuities received from passengers, leading them to obtrusive attentions upon those who feed them liberally, while others were correspondingly neglected. The Central road is entitled to great credit for setting the example of paying its men fair wages and prohibiting "tips" on its line.

THE ART AMATEUR

FOR 1887.

If you want a useful (as well as interesting) art magazine, try "The Art Amateur." This standard periodical, now in its eighth year, is acknowledged, abroad as well as here, to be the very "Best Practical Art Magazine."

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At Winstown, Tex., Oct. 19, the large gin and grist mill of Lanford & Chanoy, and the only mill and gin within the corporate limits of the town, was burned. The fire seems to have originated in the lint room of the ginning department. The loss on building and machinery is \$6,000. No insurance. The residence of A. R. Stan'on, situated near the burned property, was also damaged to the extent of about \$50.

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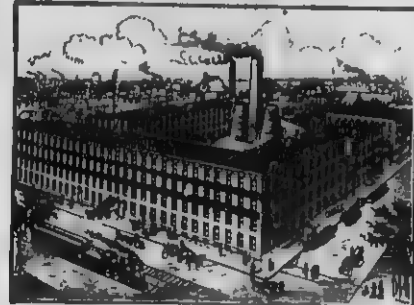
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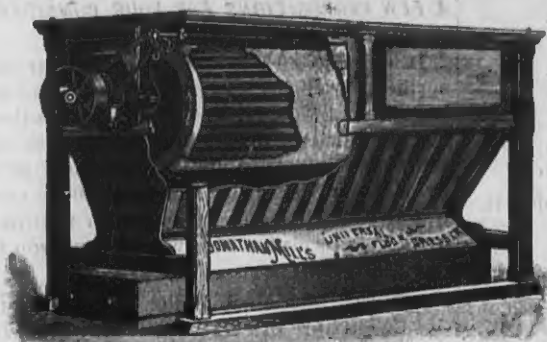
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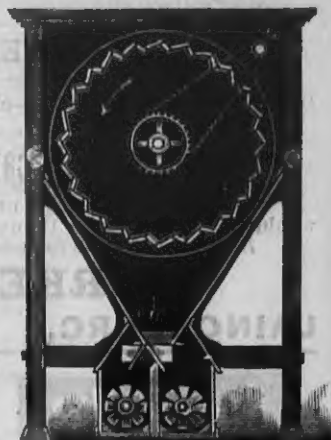
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